भारतीय मानक

IS 1637 : 2023

Indian Standard

साइकिल काठी के लिए चमड़ा — विशिष्टि

(दूसरा पुनरीक्षण)

Cycle Saddle Leather — Specification

(Second Revision)

ICS 59.140.35

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May 2023 **Price Group 4**

Leather, Tanning Materials and Allied Products Sectional Committee, CHD 17

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards after the draft finalized by the Leather, Tanning Materials and Allied Products Sectional Committee had been approved by the Chemical Division Council.

Good cycle saddles require well-tanned leather butts from good quality hides of buffalo, cow or ox, free from flay cuts. The tannage and subsequent treatments require scientific control in order to impart the desired characteristics of the leather which should be strong and durable, and be able to withstand sudden strain and to carry a steady load without undergoing any appreciable deterioration. The leather should not be too stretchy but at the same time pliable with the ability to retain its shape when made into a saddle and also during subsequent use.

The standard was originally published in 1960 and subsequently revised in 1971. In the first revision, requirements for water absorption, colour fastness and percentage elongation had been revised and in addition requirements for tongue tear strength had been introduced.

Realizing the development made lately in the commercial production not only of cycle saddles but also of strong and pliable cycle saddle leather in the country, the committee decided to revise the standard to bring it in line with present day product quality.

The composition of the technical committee responsible for formulation of this standard is listed in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

CYCLE SADDLE LEATHER — SPECIFICATION

(Second Revision)

1 SCOPE

This standard prescribes the requirements, and methods of sampling and tests for cycle saddle leather in natural and dyed coalition. This leather may also be used for purposes where strong and pliable leather is required.

2 REFERENCES

The Indian Standards listed below contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this Indian Standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below:

IS No.	*Title*
IS 582 : 1970	Methods of chemical testing of leather (*first revision*)
IS 1640 : 2007	Glossary of terms relating to hides, skins and leather (*first revision*)
IS 5868 : 1983	Method of sampling for leather (*first revision*)
IS 5914 : 1970	Methods of physical testing of leather
IS 6191 : 1971	Micro-Biological colour fastness and microscopical tests for leather

3 TERMINOLOGY

For the purpose of this standard, the definition given in IS 1640 shall apply.

4 REQUIREMENTS

4.1 Raw Material

The leather shall be processed from the butt portion of good quality buffalo, cow of ox hides that will yield ultimately leathers of thickness specified by the purchaser.

4.2 Tanning

The materials shall be in the form of butts tanned through the entire thickness by vegetable tanning materials or extracts, with or without the use of syntans and prechroming. A cut made by knife shall be smooth showing that the inside fibre is compact.

4.3 Fungicidal Additives

At the end of tanning operation, but before drying, suitable fungicides shall be incorporated in the leather.

Fungicides used to promote fungi-resistance in the leather shall be effective and non-toxic. The material shall show no growth of mildew when examined visually after the completion of the test prescribed in LB : 2 of IS 6191.

4.4 Currying

The leather shall be properly dressed with suitable mixture of oils and fats. After the currying process is complete, the material shall be aged for a sufficient period to mature thoroughly.

4.5 Finishing

The grain shall be well set to make a smooth and even surface. The flesh side shall be clean and free from serious defects. The leather shall be firm and pliable.

4.6 Physical Requirements

The leather shall comply with the physical requirements prescribed in Table 1.

4.8 Size and Shape

The material shall be supplied in the form of full butts, trimmed free of toggle, punch and nail mark.

5 PACKING

The material shall be packed as agreed to between the purchaser and the supplier.

6 MARKING

6.1 The leather packages shall be marked with the name of the manufacturer, recognized trade-mark, if any; number of pieces of leather; and month and year of manufacture.

4.7 Chemical Requirements

The leather shall also comply with the requirements prescribed in Table 2.

Table 1 Physical Requirements for Cycle Saddle Leather
(*Clause* 4.6)

Sl No.	**Characteristic**	**Requirement**	**Method of Test, Ref to**	
			IS 5914	IS 6191
(1)	(2)	(3)	(4)	(5)
i)	Thickness	As agreed to between the purchaser and the supplier. Tolerance on thickness shall be ± 0.5mm	**6.2.5** of LP : 2	—
ii)	Tensile strength, kg/cm^2, *Min*	210	LP : 6	—
iii)	Elongation at 70 kg/cm^2 load:			
	a) Temporary, 15 minutes after applying the load when load is acting, percent, *Max*	10	LP : 6	—
	b) Permanent, 4 hours after releasing the load, percent, *M*ax	3	LP : 6	—
iv)	Tongue tear strength, kg/cm thickness, *Min*	45	LP : 9	—
v)	Water absorption, percent increase in weight, *Max*:		LP : 12	—
	a) In 30 min	45		
	b) In 2 h	50		
	c) In 24 h	50		
vi)	Crackiness of the grain	Shall not crack on mandrel No. 3	LP : 13	—
vii)	Colour fastness to rubbing (crocking test)	To pass the dryand wet rubbing	—	LF : 10

Table 2 Chemical Requirements for Cycle Saddle Leather
(*Clause* 4.7)

Sl No.	**Characteristic**	**Requirement**	**Method of Test (Ref to IS 582)**
(1)	(2)	(3)	(4)
i)	Total ash, percent by mass, *Max*	1.8	LC : 3
ii)	Solvent extractable substance, percent by mass	7.0 to 11.5	LC : 4
iii)	Water soluble matter, percent by mass, *Max*	14	LC : 6
iv)	*p*H of water solubles	Not below 3.5	LC : 18
v)	Differential number, *Max*	0.6	LC : 18
vi)	Degree of tannage, Min	55	LC : 21

NOTE — Calculations of requirements (i) to (iii) are done on zero percent moisture basis.

6.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the standard mark.

7 SAMPLING AND CRITERIA FOR CONFORMITY

The scale of sampling and. criteria for conformity of the material to the specification shall be as prescribed in IS 5868.

ANNEX A

(*Foreword*)

COMMITTEE COMPOSITION

Leather, Tanning Material and Allied Products Sectional Committee, CHD 17

Organization	*Representative(s)*
Central Leather Research Institute, Chennai	DR K. J. SREERAM **(*Chairperson*)** DR R. MOHAN (*Alternate*)
A C Tech Leather and Footwear Alumni Association	SHRI N. R. JAGANNATHAN
All India Skins & Hide Tanners and Merchants Association, Chennai	SHRI T. MOHAMMAD MUBEEN SHRI S. MOHAMMED HASSAN (*Alternate*)
A T C Chemicals India Private Limited, Chennai	SHRI SUBBARAYAN GOVARDHANAN (*Alternate*)
Central Footwear Training Institute, Chennai	SHRI K. MURALI
Central Pollution Control Board, Delhi	SHRI S. K. GUPTA SHRI R. C. SRIVASTAVA (*Alternate*)
Council for Footwear and Leather Accessories (CFLA)	REPRESENTATIVE
Council of Leather Exports, Chennai	SHRI SANJAY LEEKHA SHRI R. SELVAM (*Alternate*)
Department of Industrial Policy and Promotion, New Delhi	SHRI SHAISH KUMAR SHRI NAND LAL (*Alternate*)
Directorate General of Quality Assurance, Kanpur	SHRI S. CHAKRABORTY SHRI T. P. BANERJEE (*Alternate*)
Indian Finished Leather Manufacturers & Exporters Association, Chennai	SHRI N. SHAFEEQ AHMED SHRI P. K. ASLAM BASHA (*Alternate*)
Indian Leather Products Association, Kolkata	MISS ARPITA PAUL
Indian Leather Technologist Association, Southern Chapter	REPRESENTATIVE
Indian Shoe Federation, Chennai	SHRI V. MUTHUKUMARAN SHRI ABDUL RAHMAN
Intertek India Private Limited	REPRESENTATIVE
National Institute of Fashion Technology, Chennai	SHRI E. SIVASAKTHI DR M. ARAVENDHAN (*Alternate*)
Niti Aayog, New Delhi	SHRI CHANDAN SAHA

Organization	*Representative(s)*
Office of The Development Commissioner, New Delhi	DIRECTOR (*Leather*)
Prara Leathers Private Limited, Ranipet	REPRESENTATIVE
Reagent leather Services, Chennai	SHRI NIAZ AHMED
SGS India Private Limited, Gurugram	SHRI P. VENKATESAN SHRI G. MUTHUKUMAR (*Alternate*)
Stahl India Private Limited	SHRI NAGARATHNAM SHRI SURYANARAYANAN (*Alternate*)
The CONCERT Trust, Chennai	SHRI S. KOMANDUR SRINATH SHRI M. R. KRISHNAN (*Alternate*)
UP Leather Industry Association, Agra	SHRI IMRAN SIDDIQUI
In Personal Capacity (*CSIR Distinguished Scientist CSIR - Central Leather Research Institute Adyar, Chennai 600020*)	DR B. CHANDRASEKARAN
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In Personal Capacity (*162, 12th Cross Street CLRI Nagar, Neelankarai Chennai 600115*)	DR S. SADULLA
BIS Directorate General	SHRI A. K. LAL, SCIENTIST 'E'/DIRECTOR AND HEAD (CHEMICAL) [REPRESENTING DIRECTOR GENERAL (*Ex-officio*)]

Member Secretary
MISS PREETI PRABHA
SCIENTIST 'C'/DEPUTY DIRECTOR
(CHEMICAL), BIS

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